

Location, location, location – does it matter for the subjective well-being of day labourers in South Africa?¹

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Abstract

Individual unemployment has a potentially negative impact on subjective well-being. Given the high levels of unemployment and poverty in South Africa, many people are forced into the informal economy where they engage in a variety of survivalist activities. Presenting their labour on street corners and at intersections as day labourers is a pertinent example of this. Previous research on the subjective well-being of day labourers established that comparison variables are important as far as subjective measures of well-being are concerned. The same applies for attitudinal variables in terms of an objective measure of well-being. Economic variables were found to be important in both. These factors proved to play a role in both rich and poor geographical areas.

The aim of this paper is to probe the possible effect of location on the subjective well-being of day labourers in South Africa. This is an important question given the patterns of migration among day labourers, which could possibly be linked to the differences in growth between the provinces in South Africa. Data is sourced from the first country wide survey of day labourers in South Africa. Panel regression analysis will be conducted to compare the subjective well-being among day labourers across the nine provinces of South Africa. In the analysis an objective measure of wellbeing as well as a subjective measure of wellbeing, in terms of income, will be used as the dependent variable. Income, in poor communities, has been proven to be a main determinant of subjective well-being. Attitudinal, comparison and economic variables will be included as control variables in the function. The results show that there is a difference in the wellbeing of day labourers across the nine provinces. This holds true for the objective and subjective measure of well being.

JEL code: J21, J24

Key words: Day labouring, Well-being, Happiness, Informal economy, Fixed effects, Provinces

1. INTRODUCTION AND AIM OF THE PAPER

Every day in South Africa between 45 000 and 80 000 men gather along the streets and street corners in towns and cities. They present their labour to potential part-time employers, with no guarantee of being hired for that day or any other day of the six to seven days they stand at these hiring sites. This phenomenon is not restricted to urban areas. Rondon Street is situated in a middle class suburb in Upington in the Northern Cape. Along two kilometres of road, no less than 30 people congregate every day, looking for some form of employment. Even on public holidays, such as the day after Christmas, the same number of men sits in groups of four and five with the look of anticipation on their faces turning to despair as the day wears on.

Literature suggests that day labourers are among the most marginalised groups in the informal economy. Day labour work is likely decidedly uncertain, with many labourers earning poverty-level wages while working in substandard employment conditions (Theodore, Valenzuela Jr and Meléndez, 2009). Many are left in a state of deprivation and poverty. Long spells of not being hired and consequently not earning an income impacts negatively on the level of subjective well-being they experience as income, in poor communities, has been proven to be a main determinant of subjective well-being (Diener, Sandvik, Seidlitz, and Diener, 1993). A constant theme in the South African literature is that, in the main, the wealthier testify to higher levels of satisfaction and happiness than the worse-off. The most credible rationalization for the South African quality-of-life environment is the significant gap in living standards between rich and poor (Møller and Dickow, 2002).

Cramm, Møller and Nieboer (2010: 1013) highlight the lack of research on well-being of marginalised groups in the South African labour market. Research on informal labour market activities such as day labouring is inherently difficult, given the fluid nature of this activity. Hiring sites that exist today may be gone tomorrow and replaced by new ones unbeknown to the researchers. Previous research on the day labour market in South Africa revealed that many day labourers are constantly migrating (Blaauw, 2010). The migration is linked mainly to the differences in

economic growth and the levels of economic activity and income inequality between the provinces in South Africa.

Earlier research on the subjective well-being of day labourers established that comparison variables are important as far as subjective measures of well-being are concerned. The same applies for attitudinal variables in terms of an objective measure of well-being. Economic variables were found to be important in both. These factors proved to play a role in both rich and poor geographical areas (Blaauw, Botha, Schenck and Schoeman, 2013).

Møller and Saris (2001) suggests that in general people of the Western Cape are deemed to be happy, satisfied and optimistic. On the other hand, people in the Eastern Cape, a province with the high levels of unemployment and deep poverty, are principally unhappy, dissatisfied and pessimistic. Does this hold for low income groups such as day labourers as well? The aim of this paper is to probe the possible effect of location on the subjective well-being of day labourers in South Africa. This is an important question given the patterns of migration among day labourers, where migration from poorer to richer provinces is the norm (Blaauw, 2010). The results from the first country wide study among day labourers in South Africa will be used in an attempt to provide an answer to the question.

The paper will provide a brief background on day labouring in South Africa and the factors influencing the subjective well-being of its participants. The theoretical case for a possible geographical influence on subjective well-being is followed by a brief discussion on the source of the data and the research method. The results of the empirical work and the interpretation thereof follow in chronological order before the conclusion.

2. DAY LABOURING AND SUBJECTIVE WELL-BEING IN SOUTH AFRICA

As is the case in many countries around the world, day labouring is on the increase in South Africa (Theodore et al., 2009; Blaauw, 2010). Thousands of people (mostly African men) assemble on street corners in cities or towns across the country, seeking temporary employment for the day or for a limited extended period (Blaauw

et al., 2009). In countries such as the United States it is mostly immigrants (almost exclusively from Latin America) that use day labouring as a strategy to get a foothold in the American economy (Valenzuela Jr., Theodore, Meléndez, & Gonzalez, 2006). In South Africa however, day labouring is the last resort for those who have lost or could not secure employment in the formal economy. Immigrants from the rest of Southern Africa also join this informal labour market and compete with the South African unemployed for the available temporary employment on offer (Schenck and Louw, 2005; Blaauw et al., 2006; Blaauw, 2010; Blaauw & Krugell, 2011).

Frey and Stutzer (2002) and Dolan, Peasgood and White (2008) provide inclusive reviews on the large economics literature on the determinants of well-being. Blaauw et al. (2013) investigated the determinants of subjective well-being in the case of day labourers in South Africa. The unique features of day labouring allowed the researchers to estimate an objective and subjective well-being function. The results showed that economic variables, such as employment and income, play an important part in well-being (Blaauw et al., 2013). It corroborates the importance of income for both the objective and subjective well-being of those living in extreme poverty.

The difference between these two functions for day labourers was that attitudes (injuries, being part of a support group and living with family) do play an important role in the objective function. Comparison variables (having food, change in income and are jobs better at this site) play a more prominent role in the subjective function of well-being. Subjective and objective measures of well-being both capture valuable characteristics of SWB in a poor community (Blaauw et al., 2013).

Gerdtham and Johannesson (1997) identified additional variables that may be of importance for subjective well-being such as urban/rural location and age. In the context of the migration patterns of day labourers, location warrants specific attention. Conceptually, the direction of the impact of location on happiness is difficult to determine. More densely populated urban areas can provide goods and services more efficient than rural areas. This could plausibly increase levels of well-being. The flipside of the coin in living in large metropolitan areas include longer hours spend commuting to work (Sander, 2011:277).

In Sweden the direct effect of urbanization on subjective well-being was significantly negative (Gerdtham & Johannesson, 1997:15). The effect of location on happiness was studied in the United States by Sander (2011). His study investigated the impact of living outside the hundred largest metropolitan areas in the United States on subjective well-being. Using probit and ordered probit estimates, he concluded that those in his sample, aged 25 and older, who live outside the hundred largest metropolitan areas in the United States are moderately happier than those living in them (Sander, 2011:277).

The question is whether this hypothesis will hold for day labourers, especially in light of the precarious labour market they operate in? Available data suggests that day labourers are migrating to the wealthier provinces in order to find temporary employment. The question is whether their expectations are fulfilled? Gao and Smyth (2010: 1) found: “...*that many migrants expect their financial position and, by extension, their lives more generally to get better in the future and that this is having a positive effect on their current levels of happiness. The effect of optimistic expectations outstrips any realistic increase in own income.*” It follows that expectations with regard to prospective future income are a central determinant of happiness for migrant workers in China. However, in many cases their expectations exceed their achievements (Gao and Smyth 2010).

Another study to take note of in terms of the impact of locality for the level of subjective well-being prevailing in the day labour market in South Africa is that of Knight and Gunatilaka (2008). Using 2002 CIPS data, they tried to explicate why the mean happiness score of rural-urban migrants in China is lower than that of those who stay behind in the countryside and of those who have an urban household registration. They postulate that the aspirations of migrants rise in the cities. Again the achievements fall short of the expectation.

The empirical analysis is aimed at probing this issue among day labourers in South Africa. The next section briefly describes the data source followed by the empirical methodology and results.

3. DATA SOURCE: SURVEY METHODOLOGY

The benchmark for studies in a fluid environment such as day labouring, is that of Valenzuela Jr et al. (2006), who conducted a study among day labourers in the United States on a national scale. Given the fluidity in this labour market, they endeavored to identify as many day labour sites as possible, develop a random sampling frame and employ a screening mechanism, allowing them to identify day labourers (Valenzuela Jr. et al. 2006: 27). The South African survey followed the same principal methodology as the American study, adapting it for the South Africa situation.

An important part of the method of Valenzuela Jr. et al. (2006), in 2005 and 2006 researchers associated with the present study went around the country and conducted a census of the number of day labourers in the various cities and towns. Preliminary interviews were conducted, using a brief structured set of questions. The researchers recorded the names of the streets where the day labourers congregated and counted the number of day labourers present at each site (Blaauw 2010: 75).

The national census of the day labour workforce in South Africa represents a snapshot of this workforce at that particular time. The stocks and flows present in this labour market may lead to a different number if one was able to replicate the survey in subsequent years. An important inference is that the measured numbers may undercount the total size of the day labour workforce since it cannot account for men workers who were hired prior to the time that the count was taken or workers who regularly use the hiring site but for some reason did not search for work on the day when the census was done (Valenzuela Jr. et al. 2006: 4). There were close to 1 000 locations in South Africa⁴ where people were picked up, and an estimated 45 000, mostly African men, stood at these sites looking for income each day⁵ according to the 2006 census of day labourers. Table 1 provides a summary of the

⁴ See Harmse, Blaauw and Schenck (2009:362) for a detailed description of the locations at municipal level.

⁵ This estimate is the minimum number of day labourers observed during the course of the survey. It sometimes happened that when a member of the project team arrived at a particular hiring site later in the day, only a few men were still standing there. The remaining day labourers would then indicate that many more men usually stood at that site, but that they had been hired for the day or had left already.

estimated number of day labourers in the nine provinces in South Africa during the 2005/2006 research and counting process.

Table 1: Estimated number of day labourers in the nine provinces in South Africa, 2005–2006

Province	Number of Day Labourers 2005/2006
Western Cape	8 839
Eastern Cape	4 379
Northern Cape	1 790
Free State	5 670
KwaZulu-Natal	7 247
North West	3 390
Gauteng	9 948
Mpumalanga	2 933
Limpopo	700
TOTAL	44 896

Source: Survey data; Blaauw, 2010

Table 1 shows that the provinces with the most number of day labourers are the wealthier provinces in South Africa. The interviews with the day labourers further confirm these provinces as destinations for migration for foreign and South African day labourers alike (Blaauw, 2010). Provinces like the Eastern Cape and the Free State have relatively high numbers of day labourers, considering the population numbers in these provinces. This may reflect the high unemployment rates here as well as the fact that many day labourers there are prospective migrants, but were not able to migrate as of yet.

The sampling procedure was guided by the same set of guidelines that guided the sampling technique used by Valenzuela Jr. et al. (2006) and adapted by Blaauw et al. (2006) and Louw (2007). Variables relating to geographic area, size and nature of hiring sites were taken into account in selecting a representative sample of day labourers in South Africa. The capitals of all provinces and important hubs in the rural areas had to be covered proportionally in terms of the number of day labourers present. A process of cluster sampling was the most appropriate (Rubin and Babbie 1997: 259; Bless and Higson-Smith 1995: 93). Clustering had to take place both in terms of the number of day labourers interviewed in each centre, as well as the size of the various hiring sites. If this was not done it would have led to an over-

representation of rural in comparison to urban areas and big hiring sites in comparison to small sites and *vice versa*. This is the best practice to ensure a sample that is as representative as possible of the characteristics of the research population (Valenzuela Jr. et al. 2006).

In practice, the sampling process also had to entail the use of some convenience sampling when appropriate. In the case of fieldworker traveling through a small town towards one of the sampled towns saw a small number of day labourers in that town, he or she would interview some of the day labourers there. This improved the representativeness in terms of the number of towns that were covered, without falling into the trap of not being able to evaluate the 'goodness' or reliability of the sample as explained by Williams, Sweeney and Anderson (2006: 301).

Aiming for a sample size of around 10 per cent, to control for possible sampling error, meant that between 2 500 and 4 000 interviews had to be conducted across South Africa in order for a representative sample of the research population to be obtained (De Vos, Strydom, Fouche and Delport 2004: 200).

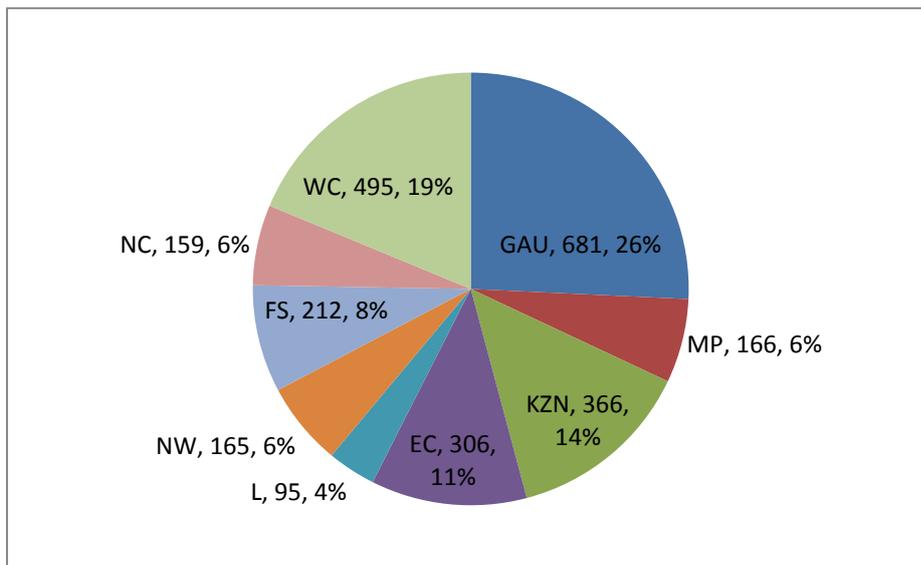
As a measure to ensure unbiased as possible results, a pilot study in a smaller geographical area was done (Blaauw et al. 2006). The results of the pilot study and the main survey for Pretoria were compared and yielded consistent results that are complementary and not contradictory. The fieldwork was conducted from the end of February 2007 to end of November 2007. Fieldworkers visited the predetermined hiring sites and randomly interviewed day labourers congregated there at the time. A total of 3 830 questionnaires were accepted for the study, representing no less than 8.5 per cent of the estimated research population.

A key ethical element of the survey was not to keep any day labourer from getting an employment opportunity due to his or her participation in the interview. In some cases interviews were not completed therefore. It was decided to include the data obtained during the interrupted interview, rather than lose the gained data by completely discarding the questionnaire. Including these incomplete questionnaires, however, meant that the data had to be cleaned in order for a complete sample fit for

cross-sectional regression analysis to be obtained. After this the size of the sample was 2 645.

The sample still reflects the required proportionality at provincial level given the census of day labourers in the various provinces. Figure 1 reflects the number and percentage distribution of the participants in the working sample of the study.

Figure 1: Participants in the survey per province (number,%)



Source: Survey data

The following section provides relevant descriptive statistics for this study, followed by the research methodology and empirical results.

4. RELEVANT DESCRIPTIVE STATISTICS OF DAY LABOURERS IN SOUTH AFRICA

4.1 Demographic features and employment history

Table 2 presents a summary of the basic demographic characteristics of the day labourers from the survey.

Table 2: Demographic profile of day labourers in South Africa, 2007

Country of origin	South Africa	85%
	Zimbabwe	9.50%

	Mozambique	2.60%
	Lesotho	1.40%
Gender	Male	96.40%
	Female	3.60%
Race	African	92%
	Coloured	7.30%
	White & Indian	0.70%
Age	Younger than 30	47.10%
	Between 30 and 35	22.90%
	35 and older	30%
Education	No schooling	6%
	Some primary schooling	18.70%
	Completed primary schooling	9.20%
	Some secondary schooling	48.70%
	Completed secondary schooling	14.80%
	Post-school qualification	1.90%
Marital status	Never married / single	56.10%
	Married	26%
	Living with a partner	9.90%
	Separated / divorced	5.60%
	Widowed	1.50%
Dependents Number of children	Average	4
	Average	2
Living conditions	Living with their family	52%
	Living in permanent structures	32%
Employment history	Had a full-time job before <u>Hired more than 3 times by same employer as day labourer</u>	51%
	Never	10%
	Seldom	50%
	Sometimes	25%
	Often	15%

Source: Survey data

The day labourers were almost exclusively male and it is in essence African and Coloured members of the population who engage in day labouring. This reflects the overall racial composition of the broader informal sector in South Africa (Saunders, 2005). Most day labourers can be classified as young. This is a symptom of the persistent unemployment and under-employment among the youth of South Africa

(Vakalisa 2005: 53). Each day labourer supports an average of four people, excluding himself. These dependants also do not necessarily live in the same province as the day labourer, which shows the migratory nature of this informal labour-market activity (Blaauw et al., 2013).

A key element in the study of subjective well-being among day labourers is the income they earn (Blaauw et al., 2013). It is therefore imperative to investigate the income earned by day labourers in the various provinces.

4.2 Income earned by day labourers at provincial level in South Africa, 2007

Table 3 shows that the average income in a good week differs among the provinces. The Limpopo (R150), Free State (R208) and Northern Cape (R288) provinces' income are lower than in the other provinces (R300-R550). The Western Cape and Gauteng provinces recorded the highest wages in a good week at R554 and R410 respectively.

During a bad week the Limpopo (R53), Free State (R90) and Northern Cape (R121) provinces' are lower than the rest (R135-R228). The Western Cape (R228) province recorded a higher wage in a bad week than the wage earned in a good week in the Limpopo and Free State province.

Table3: Average income per province during a good week and a bad week

	Good week	Bad week
Gauteng(GAU)	410	168
Mapumalanga (MP)	343	149
Kwa-Zulul Natal (KZN)	407	162
Eastern Cape (EC)	365	135
Limpopo (L)	150	53
North West (NW)	303	159
Freestate (FS)	208	90
Northern Cape (NC)	288	121
Western Cape (WC)	554	228

Source: Survey data

Merely looking at the averages does not tell the full story. Harmse et al. (2008) observed differences in the attitude and outlook in terms of income-earning prospects among day labourers in the various cities in towns across South Africa. This necessitates an analysis of income earned also at a more disaggregated level.

Table 4 and 5 disaggregates the distribution of weekly income earned by day labourers in South Africa in a good and bad week respectively at provincial level.

Table 4: Distribution of weekly income earned by day labourers in South Africa in a good week at a provincial level, 2007 (Percentages)

	Less than R100	R100-R199	R200-R299	R300-R399	More than R400	Not specified	TOTAL
Gauteng	2.3	6.8	9.5	24	53.4	4	100
Mpumalanga	8.7	23.8	9.7	1.8	51.3	4.7	100
KwaZulu-Natal	0.9	19.5	28.7	14.4	31.1	5.4	100
Eastern Cape	5.3	17.4	17.8	21.3	34.6	3.6	100
Limpopo	14.4	61.3	19.8	0.9	1.8	1.8	100
North West	11.7	31	10.9	10.5	31.5	4.4	100
Free State	21.1	17.7	30.6	23.2	3.7	3.7	100
Northern Cape	8.4	27.3	25.1	10.5	15.3	13.4	100
Western Cape	1.1	7.2	17.8	13.2	56.8	3.9	100
South Africa	6.1	16	18.6	16.6	38.2	4.5	100

Source: Survey data; Blaauw, 2010

Table 4 demonstrates that in weeks perceived by day labourers as good weeks of earning, the majority of day labourers earned in excess of R400 per week in 2007. This is the case for South Africa as a whole as well as for six of the nine provinces. Income levels in good weeks are clearly lower in the Free State, Northern Cape and Limpopo provinces. The majority of day labourers in the Free State earned between R200 and R300 in a good week in 2007. For day labourers in the Northern Cape and Limpopo, weekly income levels are even lower. The majority of day labourers here earned only between R100 and R200 per week during a good week (Blaauw, 2010).

The situation in Limpopo is especially bad for these men. No fewer than 61 per cent of day labourers there earn between R100 and R200 per week, noting it is earnings in a good week.

Table 5: Distribution of weekly income earned by day labourers in South Africa in a bad week at a provincial level, 2007 (Percentages)

	R0 - R100	R101- R200	R201- R300	R301- R400	More than R400	TOTAL
Gauteng	44.3	35.4	10.8	4.8	4.7	100
Mpumalanga	47.6	24.6	17.3	6.5	4	100
KwaZulu-Natal	62.9	11.7	10.4	4.4	10.6	100
Eastern Cape	57.5	23.5	11.8	5	2.2	100
Limpopo	99				1	100
North West	53	17.8	12.3	4.6	12.3	100
Free State	71.2	23.6	3.4	1	0.8	100
Northern Cape	62.1	26	8.5	1.7	1.7	100
Western Cape	40.8	16.7	15	10.6	16.9	100
South Africa	53.3	22.3	11.1	5.4	7.9	100

Source: Survey data

Table 5 reveals that there is one category (less than R 100 per week) of earnings applicable to the majority of day labourers in all provinces when a bad week of income is experienced. The provinces where the lowest percentage of day labourers earned less than R100 per week in bad weeks are again Gauteng, Mpumalanga and the Western Cape. KwaZulu-Natal, Eastern Cape and North West are more or less on par with the national situation. Moreover, it seems that the situation in the Free State, Northern Cape and Limpopo provinces is worse than the national level. In Limpopo almost every day labourer interviewed said that in bad weeks he earned less than R100 per week. More than 70 and 60 per cent of day labourers in the Free State and Northern Cape respectively had the same experience (Blaauw, 2010).

This seems to mirror the situation in terms the South African space economy and the provincial economic performance at the time. Harmse et al. (2008) investigated the spatial distribution of day labourers in relation to unemployment and socio-economic development in South Africa. The South African space-economy is characterised,

inter alia, by spatial disparities in levels of socio-economic development, GDP, unemployment and distribution in the numbers of day labourers (Harmse et al., 2008: 8). These disparities are summarised in Table 6.

Table 6: Spatial disparities across the nine provinces of South Africa

Province	Unemployment rate 2006 %	Unemployment rate 2004 %	Number of day Labourers 2005/2006	Per capita GDP 2004
Western Cape	15.9	18.6	8 839	R29 724.901
Eastern Cape	22.1	34.7	4 379	R10 925.742
Northern Cape	23.5	27.7	1 790	R23 445.531
Free State	28.3	34	5 670	R16 640.922
KwaZulu-Natal	29.9	37	7 247	R16 300.859
North West	31.8	39.5	3 390	R15 866.931
Gauteng	23.3	34.1	9 948	R36 078.176
Mpumalanga	27.4	32.4	2 933	R19 634.066
Limpopo	35.6	34.1	700	R11 425.065

Source: Harmse et al., 2008: 12

The observed spatial patterns and disparities are not random. Harmse et al. (2008: 8) found a negative relationship between unemployment and GDP at provincial level and a positive relationship between GDP and day labourers. Provinces in which a high percentage of the GDP of the country is produced tended to have lower levels of unemployment, but higher numbers of day labourers. The provinces that contribute only a small percentage of the country's GDP, on the other hand, tended to have high unemployment rates and very small numbers of day labourers (Harmse et al., 2008: 8).

Theory suggests that these issues must undeniably have an influence on the subjective well-being of day labourers in South Africa. This forms the key building block for the model selection and empirical analysis described in the next section.

5. METHOD OF RESEARCH, MODEL SPECIFICATION AND ESTIMATION

5.1 Method of research

To investigate the well-being of day-labourers in South Africa we employ an unbalanced cross sectional panel of nine provinces. The benefit of panel estimation is that it acknowledges heterogeneity, in this case among the provinces of South Africa. Panel estimators can be used to control for unobserved individual time invariant heterogeneity. It is then possible to estimate the difference in well-being of day labourers between provinces. The model can be specified as follows:

Where y_{it} is the dependent variable at time (t) for a certain cross section (i) – in this case, a province, α_i is the intercept term and β is a $k \times 1$ vector of parameters to be estimated on the $k \times 1$ observations of the explanatory variables (X), t is $1, \dots, T$ and i is $1, \dots, N$ (Brooks, 2008).

The specification will be used in three ways, namely the pooled OLS, fixed effects and the random effects estimation. The random effects model is more appropriate when the cross section in the sample have been randomly selected from the population, but a fixed effect model is more appropriate when the sample effectively constitute the entire population. The choice of the final model will be based on the fixed effects F test and the Hausman correlated error test to establish which model is the appropriate model.

5.2 Specification of the model

The choice of dependent and independent variables for the specification of the model is similar to (Blaauw, et al., 2013), accept it focuses on the provinces, specifically the possible differences in the well-being of day labourers. Two functions will be specified, namely a subjective and an objective function. The difference between these two functions is the dependent variable, which is a proxy for the subjective and objective measure of wellbeing. The dependent variable for the subjective function will be the satisfaction level of income (is your income as good as expected?). Since this is a survival strategy, traditional economic considerations such as optimality and wealth creation are not involved in this activity. So in this

unique context the dependent variable does not merely mean a comparison between expectations and reality, it is indeed a measure of subjective well-being among labourers (Blaauw, et al., 2013).

The dependent variable for the objective function is the log of the best wage earned per day. According to literature income is a very important indicator of well-being in poor communities. When day labourers earn the best income levels it brings about a feeling of happiness and improved well-being (Blaauw, et al., 2013).

The basic approach to specify a well-being function is to include basic variables, conventional economic variables, comparison variables, community variables and attitudinal variables as explanatory variables Mentzakis and Moro (2009); Knight, Song and Gunatilaka (2009); Cummins (2000); Kingdon and Knight (2004).

The following variables from the day labourer survey were used and classified according to their broad categories:

The basic demographic variables appear as standard throughout the literature, this include gender, education, marital status and age. In this survey age was categorised and as was not used as a continuous variable.

Table 7: Basic variables

	Definition/ question in survey	Expected sign	Reason
<i>Basic variables</i>			
AFRICAN	Race	Irrelevant	Most day labourers are African
MALE	Gender	Irrelevant	Most day labourers are male
PRIMARY	Completed primary school	+	Education on primary level does not affect SWB negative
SECONDARY	Did not complete	+	Education on secondary level, not completed, does not affect SWB

	secondary school		negative
COMPSEC	Completed secondary school	-	You expect more from life when you have completed secondary school
MARRIED	Marital status	+	Knight et al. (2009) found that people who are married are happier
DIVORCED		-	One would expect the sign to be negative on psychological grounds
TWENTIES	Age	-	Expect that the younger the day labourer the less happy he will be, since he is looking for a better life. Older people, on the other hand, are negative because they know it is difficult to enter the formal job market, creating further feelings of despair and self-doubt.
THIRTIES	Age	-	See above
FORTIES	Age	-	See above
OVER50	Age	+/-	See above or they have made peace with their circumstances

Source: Adopted from (Blaauw, et al., 2013)

In this study we are looking at the specific informal sector of day labourers and economic variables such as the income and employment pertaining specifically to the day labourers in South Africa is used. More than 50 per cent of the respondents who did previously have a fulltime job are day labourers and it is therefore important to include employment related variables in this particular sector (Blaauw, et al., 2013). The different economic variables are tabled below.

Table 8: Economic variables

	Definition/question in survey	Expected sign	Reason
GOODWEEK	The income variable is the	+	If you had a good week's wage you will probably feel

	log of the wage in a good week		positive
FULLTIME	Were you previously employed full-time?	-	Wage income in the formal economy will in all probability be much higher, therefore the negativity about day labouring.
LOOKFULTIME	Are looking for a full-time job?	-	If you are currently looking for a full-time job it is assumed that you are unhappy with your current situation
TURNDOWN	Have you turned down a job?	-	A day labourer will turn down a job when the wage is too low, leading to further dejection and despair.

Source: Adopted from (Blaauw,et al.,2013)

The comparison between current income to past circumstance and aspirations forms the subjective perception of the financial situation of the respondent (Blaauw, et al., 2013). These comparison variables are primarily a comparison of an individual at different times, or with other day labourers that the respondents know.

Table 9: Comparison variables

	Definition/question in survey	Expected sign	Reason
JOBSBETTER	Are jobs better at this site?	+	This is a comparison with oneself or with other day labourers. The possibility of a better site makes the day labourer feel better.
FOOD	Do you have enough food?	+	If you have food you will feel more positive about your job (comparison with oneself or

			other day labourers)
CHANGE	Change in income	+ OR -	This is a change in income from a good week; the sign depends therefore on whether the change is negative or positive

Source: Adopted from (Blaauw,et al.,2013)

The attitudinal variables are included to control for behaviour, which affects subjective well-being. The three attitudinal variables reflect the psychological state of mind or attitude towards their perception of their job or situation. The community variables are the different provinces in South Africa (Knight, et al 2009). The variables were grouped according to the nine provinces in South Africa: Gauteng (GAU); Mpumalanga (MP); Kwa-Zulu Natal (KZN); Eastern Cape (EC); Limpopo (L); North West (NW); Free State (FS); Northern Cape (NC) and Western Cape (WC).

Table 11: Attitudinal and community variables

	Definition/question in survey	Expected sign	Reason
INJURY	Have you incurred an injury?	-	If you incurred an injury you will probably have a negative attitude towards your job and your situation
SUPPORT	Do you have a support group?	+	If you are part of a group of day labourers who support each other you will have a positive attitude
STAYFAMILY	Do you stay with family?	+	If you are staying with your family you will have a positive attitude

Source: Adopted from (Blaauw,et al.,2013)

5.3 Estimation results

The objective and subjective functions in the panel data analysis framework were estimated. The pooled OLS method was used in the objective function, but due to the binary nature of the dependent variable for the subjective function a pooled probit model was the most appropriate model to use for this function. The fixed effects model was fitted for both functions. It allows for cross-section heterogeneity and assumes a different intercept for each province included in the sample. The F-test for fixed effects was conducted to establish whether the fixed effects model is indeed different to the pooled OLS and pooled probit. The null hypothesis (redundant fixed effects) was rejected in both functions. This implies that the provincial effects are significantly different from each other. The random effects model allows for the cross section heterogeneity but the difference from the fixed effects models is that it assumes that these effects are generated by a specific distribution; therefore each effect is not modelled explicitly. This model was not suited for these two functions because the estimated coefficients were larger than the cross sections.

The income variable, log of the wage in a good week (GOODWEEK), will be instrumented because of endogeneity problems that occur with income when estimating SWB functions (Senik 2005: 46; Kingdon and Knight 2004: 15). The endogeneity test indicated that the income variable (GOODWEEK and the change in income) is endogenous in the objective function but not in the subjective function. The J-statistic probability was 0.0 and 0.58 for the objective and subjective function respectively. In the case of the objective function the null hypothesis (exogeneity) was rejected indicating endogeneity of the variable. See the appendix for the results.

The log of the lowest wage (LOWWAGE), change in the log of the lowest wage and months as a day labourer (MONTHS) were used as instruments. The orthogonality C-test confirmed the exogeneity of these variables where the probability of the J-statistic were >0.05 and showed acceptance of the null hypothesis (exogeneity). See the results in the appendix. The weak instrument test showed that the months of a day labourer were weaker than the other two instruments. The pooled and fixed effects model, 2sls fixed effects model for the objective function and the pooled probit and the fixed effects model results for the subjective function are presented in the table below.

Table 12: Results from the pooled and fixed effects models

Variable	Pooled	Fixed effect	Fixed effect 2SLS	Pooled probit	Fixed effects
AFRICAN	0.010	0.025	0.052	-0.011	-0.091
MALE	0.113 **	0.117 ***	0.018	-0.496 ***	-0.556 ***
PRIMARY	0.087 **	0.068 **	0.062	-0.286 **	-0.306 *
SECONDARY	0.191 ***	0.183 ***	0.096 **	-0.159	-0.194
COMPLETE	0.247 ***	0.232 ***	0.002	-0.120	-0.121
MARIED	0.081 ***	0.074 ***	0.036	-0.008	-0.025
DIVORCED	-0.012	-0.044	-0.120 ***	0.103	0.157
TWENTIES	-0.041 *	-0.054 **	-0.044	-0.195 *	-0.173
THIRTIES	0.012	0.019	-0.036	-0.123	-0.145
FORTIES	-0.024	-0.005	-0.003	0.000	-0.026
OVER50	0.002	0.021	-0.027	-0.161	-0.208
ECONOMIC					
LOG(GOODWEEK)	0.491 ***	0.432 ***	0.992 ***	0.759 ***	0.778 ***
FULL	0.042 ***	0.051 ***	0.068 ***	-0.266 ***	-0.322 ***
LOOKING	-0.087 **	-0.077 *	0.060	-0.009	-0.049
TURNDOWN	-0.043 *	-0.012	-0.128 ***	-0.034	-0.032
COMPARISON					
JOBOPP	-0.029	0.000 ***	-0.303 ***	1.780 ***	1.726 ***
FOOD	0.005	0.014 ***	-0.040 *	0.559 ***	0.571 ***
DLOG(GOODWEEK)	-0.076 ***	-0.047 ***	-0.008	-0.192 ***	-0.204 ***
ATTITUDES					
INJURY	-0.082 ***	-0.052 **	-0.102 ***	0.013	0.085
SUPPORT	0.128 ***	0.111 ***	0.174 ***	-0.111	-0.140 *
STAYFAMILY	0.014	0.052 ***	0.104 ***	-0.087	-0.105
C	1.560 ***			-4.641 ***	
COMMUNITY					
GAU		1.895 ***	-1.226 ***		-4.358 ***
MP		1.665 ***	-1.346 ***		-4.521 ***
KZN		1.921 ***	-1.156 ***		-4.749 ***
EC		1.734 ***	-1.308 ***		-4.221 ***
L		1.923 ***	-0.866 ***		-4.667 ***
NW		1.751 ***	-1.187 ***		-4.233 ***
FS		1.732 ***	-1.109 ***		-4.534 ***
NC		1.705 ***	-1.183 ***		-4.544 ***
WC		1.983 ***	-1.219 ***		-4.719 ***
Total panel observations	2636	2636	2636	2636	2636
Cross sections	9	9	9	9	9
Adjusted R-squared	0.456	0.492	0.080	0.547	0.554
S.E. of regression	0.369	0.356	0.48	0.303	0.300

*, **, *** 10%,5% and 1% significance level respectively

5.3.1 The objective function results

Most demographic variables are significant in the pooled model. The twenties age group are significant. The education variables were significant with unexpected signs. The economic variables were all significant and the signs are according to expectations except for having a full time job previously, recorded a positive sign. Only the change in income among the comparison variables was significant. The attitudinal variables were all significant except staying with family, although the sign was positive as expected.

When fitting the fixed effects model to account for heterogeneity between the provinces the significance of some of the variables changed. All the variables that were significant in the pooled model are still significant with the same sign, except the economic variable, turned down a job, became insignificant and the comparison variables having food and better job opportunities at this site became significant. The attitudinal variable, staying with family became significant. All the economic, comparison and attitudinal variables became significant (except turned down a job) in the fixed effects model. The F-test for testing the redundancy of the fixed effects showed the significance of the provincial effects, therefore there is a significant difference between the provinces. The highest to lowest ranking of well-being according to the provincial effects is WC, L, KZN, GAU, NW, EC, FS, NC, MP.

Due to the endogeneity problem the income variables (income in a good week and the change in income) was instrumented. The results changed for the objective function when the instruments were used. For the demographic variables only secondary schooling and the marital status were significant. The economic variables (full time job and income) are still significant with higher coefficients than the fixed effects model, looking for a full time job became insignificant in the instrumented model and have you turned down a job became significant.

All the comparison variables, except change in income, were significant, but with unexpected signs. All the attitudinal variables were significant, with the expected signs. This is similar to the fixed effects model, although with the instrumented fixed effects model the coefficients are larger. The highest to lowest ranking of well-being according to the provincial effects are L, FS, KZN, NC, NW, WC, GAU, EC, MP.

5.3.2 The subjective function

Only gender, primary schooling and the twenties age group is significant. The economic variables, income and whether the participant had a full time job were significant with the expected sign. All the comparison variables were significant with the expected signs. No attitudinal variables were significant.

The same variables that were significant in the pooled model are significant in the fixed effects model except the twenties age group became insignificant and the attitudinal variable, belonging to a support group, became significant with the unexpected sign. The highest to the lowest well-being according to the provincial effects are EC, NW, GAU, MP, FS, NC,L,WC, KZN.

The difference between the objective and subjective functions are that attitudinal variables are more important in the objective function (significant comparison variables had the incorrect sign), whereas in the subjective function, comparison variables are important (significant attitudinal variable had incorrect sign). The economic variables are important in both functions confirming literature that income is an important factor for well-being in poor communities. The major difference between these two functions are that the ranking of the well-being provincially differ totally from each other.

This may well relate to the experience of Gao and Smyth (2010) in China, where raised expectations are not always met in reality. For day labourers in South Africa this may also be the case. The richer provinces have more job opportunities but also more competitions and therefore the wages may not be as good as expected by the day labourers. Those remaining in the so called poorer provinces may be the ones who were not as yet able to migrate and have no choice but to stay there. These men may have adapted to their lives and in spite of earning low income, their subjective well-being as higher than expected due to the influence of other variables (Nielsen, et al., 2010).

Another possible explanation is the fact that the cost of living in the wealthier provinces is indeed higher. As a result, higher income does not necessarily equate to

increased levels of subjective well-being. Moreover, given the patterns of migration observed, it is expected that there may be an oversupply of day labourers in the wealthier provinces, increasing the competition for available jobs. Again, expectations may not be reached as postulated by the hypothesis of Gao and Smyth (2010).

6. CONCLUSION

An unbalanced panel with 9 cross sections were used to determine whether the well being of day labourers in South Africa differ between the provinces. After the necessary tests the two final models were a instrumented fixed effects model for the objective function and a probit fixed effects model for the subjective function. Literature identified broad categories of determinants (economic, comparison, attitudinal and communities) that influence well being in general. The findings from this research confirmed the findings from (Blaauw, et al.,2013) that economic variables do play a role in both measures of well being and that attitudinal and comparison variables are more important in the objective and subjective measure of well being, respectively.

The findings also confirmed that community variables are important. A new community variable introduced in this research was the distinction between the well-being of day labourers in different provinces. The results confirm that the well-being between provinces was statistically different from each other. This confirms the role of geographical location in subjective well-being identified in international studies (Sander, 2011). More important was that the ranking of the well being of day labourers between the provinces of the objective and subjective functions was also different. One of the reasons can be attributed to the fact that there is a difference in the prominence of the attitudinal and comparison determinants of well being between these functions.

Well-being in the informal economy is a multifaceted phenomenon. It is imperative to use both the objective and subjective measures of well-being when dealing with well-being among day labourers and by implication marginalised groups in poor communities.

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APPENDIX

Endogeneity Test

Equation: EQ01

Specification: LOG(BEST) BLACK MALE PRIMARY SECONDARY COMPLETE MARIED DIVORCED TWENTIES THIRTIES FORTIES OVER50 LOG(GOODWEEK) FULL LOOKING TURNDOWN JOBOPP FOOD DLOG(GOODWEEK) INJURY SUPPORT STAYFAMILY C

Instrument specification: C LOG(LOWEST) MONTHS BLACK MALE PRIMARY SECONDARY COMPLETE MARIED DIVORCED TWENTIES THIRTIES FORTIES OVER50 FULL LOOKING TURNDOWN JOBOPP FOOD INJURY SUPPORT STAYFAMILY

Endogenous variables to treat as exogenous: LOG(GOODWEEK) DLOG(GOODWEEK)

	Value	df	Probability
Difference in J-stats	409.8676	2	0.0000

J-statistic summary:

	Value
Restricted J-statistic	409.8676
Unrestricted J-statistic	0.000000

Weak Instrument Diagnostics

Equation: EQ01

Cragg-Donald F-stat: 1.427885

Weak Instrument Diagnostics low

Equation: EQ01

Cragg-Donald F-stat: 187.6372

Weak Instrument Diagnostics

Equation: EQ01

Cragg-Donald F-stat: 0.157106

Instrument Orthogonality C-test Test

Equation: EQ01

Specification: LOG(BEST) BLACK MALE PRIMARY SECONDARY COMPLETE MARIED DIVORCED TWENTIES THIRTIES FORTIES OVER50 LOG(GOODWEEK) FULL LOOKING TURNDOWN JOBOPP FOOD DLOG(GOODWEEK) INJURY SUPPORT STAYFAMILY C

Instrument specification: LOG(LOWEST) BLACK MALE PRIMARY SECONDARY COMPLETE MARIED DIVORCED TWENTIES THIRTIES FORTIES OVER50 FULL LOOKING TURNDOWN JOBOPP FOOD INJURY SUPPORT STAYFAMILY MONTHS DLOG(LOWEST)

Test instruments: LOG(LOWEST)

	Value	df	Probability
Difference in J-stats	1.045940	1	0.3064

J-statistic summary:

	Value
Restricted J-statistic	1.045940
Unrestricted J-statistic	5.01E-29

Instrument Orthogonality C-test Test

Equation: EQ01

Specification: LOG(BEST) BLACK MALE PRIMARY SECONDARY COMPLETE MARIED DIVORCED TWENTIES THIRTIES FORTIES OVER50 LOG(GOODWEEK) FULL LOOKING TURNDOWN JOBOPP FOOD DLOG(GOODWEEK) INJURY SUPPORT STAYFAMILY C

Instrument specification: LOG(LOWEST) BLACK MALE PRIMARY SECONDARY COMPLETE MARIED DIVORCED TWENTIES THIRTIES FORTIES OVER50 FULL LOOKING TURNDOWN JOBOPP FOOD INJURY SUPPORT STAYFAMILY MONTHS DLOG(LOWEST)

Test instruments: MONTHS

	Value	df	Probability
Difference in J-stats	1.045940	1	0.3064

J-statistic summary:

	Value
Restricted J-statistic	1.045940
Unrestricted J-statistic	1.62E-35

Instrument Orthogonality C-test Test

Equation: EQ01

Specification: LOG(BEST) BLACK MALE PRIMARY SECONDARY COMPLETE MARIED DIVORCED TWENTIES THIRTIES FORTIES OVER50 LOG(GOODWEEK) FULL LOOKING TURNDOWN JOBOPP FOOD DLOG(GOODWEEK) INJURY SUPPORT STAYFAMILY C

Instrument specification: LOG(LOWEST) BLACK MALE PRIMARY SECONDARY COMPLETE MARIED DIVORCED TWENTIES THIRTIES FORTIES OVER50 FULL LOOKING TURNDOWN JOBOPP FOOD INJURY SUPPORT STAYFAMILY MONTHS DLOG(LOWEST)

Test instruments: DLOG(LOWEST)

	Value	df	Probability
Difference in J-stats	1.045940	1	0.3064

J-statistic summary:

	Value
Restricted J-statistic	1.045940
Unrestricted J-statistic	4.37E-33

Endogeneity Test

Equation: EQ_SUB

Specification: GOODORBAD B MALE PRIMARY SECONDARY COMPSEC MARRIED DIVORCED TWENTIES THIRTIES FORTIES OVER50 LOG(GOODWEEK) FULLTIME LOOKFULLTIME MONTHS TURNDOWN JOBSBETTERTHISITE FOOD INJURY SUPPORT STAYFAMILY DLOG(GOODWEEK) C

Instrument specification: C B MALE PRIMARY SECONDARY COMPSEC MARRIED DIVORCED TWENTIES THIRTIES FORTIES OVER50 FULLTIME LOOKFULLTIME TURNDOWN JOBSBETTERTHISITE FOOD INJURY SUPPORT STAYFAMILY MONTHS DLOG(LOWWAGE) LOG(LOWWAGE)

Endogenous variables to treat as exogenous: LOG(GOODWEEK) DLOG(GOODWEEK)

	Value	df	Probability
Difference in J-stats	1.059220	2	0.5888

J-statistic summary:

	<u>Value</u>
Restricted J-statistic	1.059220
Unrestricted J-statistic	1.93E-39

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